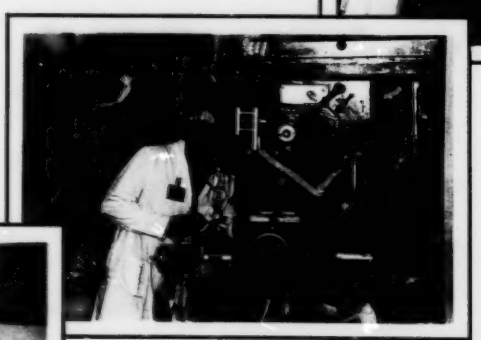

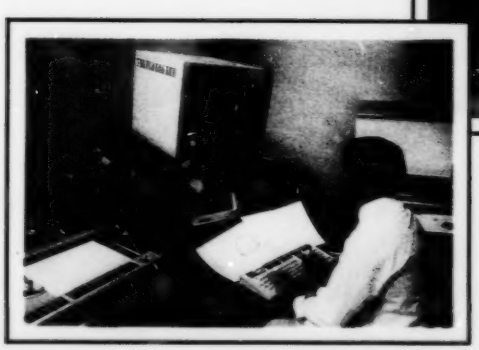

SASKATCHEWAN CANCER FOUNDATION

ANNUAL REPORT

1989-90

Front Cover (top to bottom)

1. Dr. T. S. Goh, Pediatric Oncologist, Regina
2. Nursing Station, Saskatoon
3. L. Skrtic, Health Records, Regina
4. S. Bergen, Research Lab, Saskatoon
5. I. Hardie, Physics Services, Regina
6. S. Meeklah, Treatment Planning, Saskatoon

91-04355/

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Letter of Transmittal

The Honourable George McLeod
Minister of Health
Province of Saskatchewan
Legislative Building
Regina, Saskatchewan
S4S 0B3

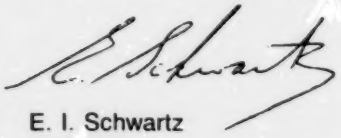
Dear Mr. McLeod:

As Chairman of the Saskatchewan Cancer Foundation Board of Directors, I have the honour to submit herewith the report of the activities of the Foundation for the fiscal year ending March 31, 1990.

This past August, the Foundation experienced a major change on the Board of Directors. We were pleased to welcome Mrs. Paula Jolly, Mr. Arthur Meister, Mr. Denis Smail and Dr. Roy West to three year terms on the Board.

I want to take this opportunity to express the Foundation's appreciation to Mr. David Babiuk, Dr. James L. Blackburn, Mr. James Craig, Dr. Ivan Daunt, Mrs. Eileen Green, Mr. George McCallum and Mrs. Judy Turko for their collective contribution of 56 years of service on the Board. Their efforts contributed significantly to the cancer program's development.

Respectfully submitted,



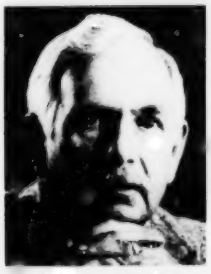
E. I. Schwartz
Chairman

Board of Directors

Mr. E. I. Schwartz
Chairman
Saskatoon

Mrs. D. Cowie
Alida

Mrs. P. Jolly
Mossbank



Dr. W. D. MacRae
Regina

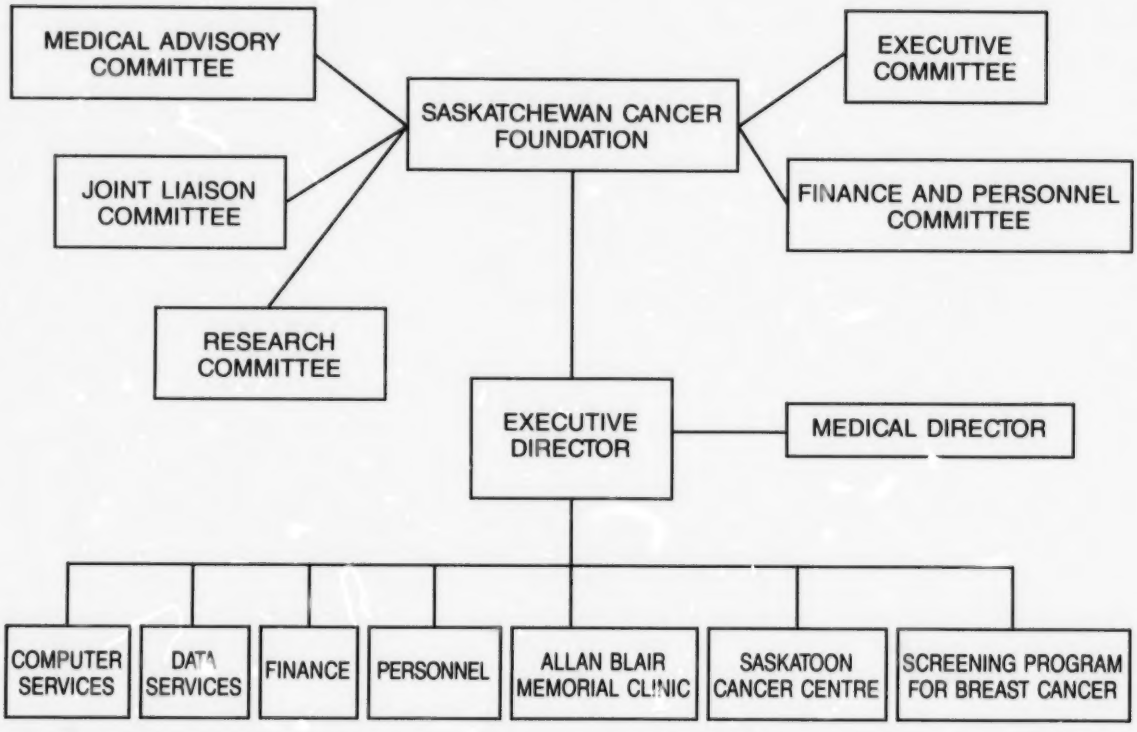
Dr. I. M. McDonald
Saskatoon

Mr. A. Meister
Radisson

Mr. D. Smail
Saskatoon

Dr. R. West
Regina

Organization



Committees

Executive Committee

Mr. E. I. Schwartz, Chairman
Mrs. D. Cowie
Dr. I. M. McDonald
Mr. D. Smail

The Executive Committee of the Board considers urgent business of the Foundation which may arise between regular meetings of the Board of Directors.

Finance and Personnel Committee

Mrs. D. Cowie, Chairperson
Mrs. P. Jolly
Dr. W. D. MacRae
Mr. A. Meister
Mr. E. I. Schwartz (ex officio)

The Finance and Personnel Committee makes recommendations to the Board regarding the financial operation of the cancer program.

Organization

Medical Advisory Committee

Dr. D. F. White, Saskatoon; Chairman
Dr. A. V. Eustace, Wolseley
Dr. G. H. Ewing, Regina
Dr. T. S. Goh, Regina
Dr. A. W. Maksymiuk, Saskatoon
Dr. H. McKee, Saskatoon
Dr. D. R. Popkin, Saskatoon
Dr. A. K. S. Teckchandani, North Battleford
Dr. K. R. Visvanathan, Estevan
Dr. H. Wass, Regina

The Medical Advisory Committee advises the Foundation on the provision of medical services and related matters.

Research Committee

Mr. P. H. Peters, Regina; Chairman
Dr. J. D. Chapman, Edmonton
Dr. D. V. Cormack, Calgary
Dr. G. H. Ewing, Regina
Dr. D. D. Johnson, Saskatoon
Dr. R. West, Regina
Dr. D. F. White, Saskatoon

The Research Committee advises the Foundation on the awarding of grants to support research projects initiated by Foundation staff, or by other researchers collaborating with Foundation staff.

Joint Liaison Committee

Mr. E. I. Schwartz, Saskatoon
Mr. P. H. Peters, Regina
Mr. D. Smail, Canadian Cancer Society
Mr. G. O. Thomas, Canadian Cancer Society

The Joint Liaison Committee addresses matters which are of mutual concern to the Saskatchewan Cancer Foundation and the Canadian Cancer Society, Saskatchewan Division.

Administration Staff

P. H. Peters	Executive Director
D. F. White	Medical Director
M. V. Brown	Administrative Assistant
V. J. Lusk	Director of Finance
O. H. Pratt	Director of Personnel
W. G. Sharp	Associate Director of Finance
D. L. Robson	Director of Data Services
D. L. Benson	Director of Computer Services

The administrative staff implement policy and have responsibility for the operation of the cancer program.

Mission Statement

"To Achieve Excellence in Patient Care and Cancer Control"

Principles

1. Provision of the highest quality patient care.
2. Recognition of physical, emotional and spiritual aspects of patient care.
3. Consideration of patient dignity and rights.
4. Provision of equal access to cancer treatment, to the extent possible.
5. Maintenance of up-to-date expertise in professional staff.
6. Incorporation of clinical and basic research in the cancer program.
7. Integration of professional and public education in the cancer program.
8. Provide ongoing evaluation of the effectiveness of services.
9. Ensure cost effective use of resources.
10. Maintain interaction with related interest groups.

Cancer Control Program

The Saskatchewan Cancer Foundation is responsible for the development and operation of the Saskatchewan Cancer Program. The Foundation's two cancer clinics — the Allan Blair Memorial Clinic in Regina and the Saskatoon Cancer Centre — provide diagnostic services, radiotherapy and chemotherapy treatment and follow-up services. They also serve as centres for the co-ordination of a multi-disciplinary approach to all aspects of care and treatment for cancer patients. Clinic staff work closely with the patient's family physician, consulting physician and surgeon, and other persons not directly employed by the Foundation to ensure the provision of high quality treatment and follow-up care.

In January, 1990, the Cancer Foundation assumed administrative responsibility for the Screening Program for Breast Cancer, a provincially-funded program aimed at the early detection and diagnosis of breast cancer.

Dr. M. Poon
Head of Medical Oncology
Regina

T. Sanche
Transcription
Regina

J. Kolbinson
Pharmacy
Saskatoon

Cancer Control Program

Nature and Scope of Services

The program offered by the Saskatchewan Cancer Foundation incorporates prevention, detection, diagnosis, treatment and follow-up of patients with malignant or premalignant disease. As a part of this comprehensive program, the Foundation is involved in teaching and research which is complementary to the service activities.

Since only patients referred by doctors are admitted to the Cancer Control Program, the responsibility for suspecting cancer and facilitating its detection at the earliest possible times rests with the family doctor. When the family physician suspects the presence of cancer, and has completed the investigations, a diagnosis should be arrived at and an evaluation made as to the extent of the disease and the treatment required as soon as possible. To facilitate this process the patient should be referred to the cancer clinic or appropriate specialists, whichever is most suitable. In all cases, the patient must be registered with the program within 14 days of making the diagnosis of cancer.

When a malignant condition is discovered, the clinic medical staff, the patient's physician, and consultant specialists plan and carry out a treatment program. If surgery forms part of the treatment, the patient and physician may choose an appropriate qualified surgeon from a surgical roster maintained by the Foundation. If radiotherapy forms part of the treatment plan, it is administered by radiation oncologists on the staff of the clinics. Chemotherapy, the treatment of cancer through the administration of chemical agents, is carried out by clinic medical staff and by other physicians in consultation with clinic staff.

Regular follow-up examination of patients treated for cancer is a vital procedure in detecting recurrent disease and for assessing the effectiveness of treatments. The Saskatchewan Cancer Foundation maintains a comprehensive follow-up activity with all patients receiving regularly scheduled examinations after treatment by either personnel of the clinics, consultant specialists or their family physician.

The staff of each clinic, in co-operation with the patient's family physician and consultant specialists, attempt during treatment and follow-up to prepare the patient both physically and psychologically for the future. Those who must be fitted with prosthetics are given instructions on how to adapt to them, while patients with certain disabilities are cared for at the Wascana Hospital in Regina or the rehabilitation unit of the University Hospital in Saskatoon. Patients and their families often go through successive periods of stress and readjustment when faced with problems created by a diagnosis of cancer. Social workers at each clinic are available to meet the social and emotional needs of the cancer patients and their families.

Eligibility and Benefits

To be eligible for benefits under the Cancer Control Program, a patient must be a resident of the province for three months and must be formally admitted to the program by his/her doctor. For landed immigrants and some special residents returning to Canada, this period is reduced to one day.

There is no charge to eligible patients for diagnostic and treatment services received at the cancer clinics. In addition, the Foundation pays for authorized medical and surgical services provided by physicians in private practice, in-hospital drugs, and certain out-patient drugs used in the active treatment of cancer.

The Foundation office or the cancer clinics can provide details on policies governing admission to the program and payment of services, including service outside the province and outside of Canada.

Report of the Chairman and Executive Director

E. I. Schwartz
Chairman
of the Board

"To Achieve Excellence in Patient Care and Cancer Control"

P. H. Peters
Executive Director

was the Mission Statement adopted by the Cancer Foundation this past year. This statement, together with our defined Principles, set out the organization's philosophy, values and reason for existence. This report is, in part, a reflection of how the Foundation set about to fulfill its Mission. Some of these events will be highlighted here, while others will be identified and expanded on by other contributors to the Foundation's report.

The opening of the Cancer Research Unit at the Saskatoon Cancer Centre, with the selection of Dr. S. Carlsen as its first Director of Research, was one such event. This expansion of the program will increase the Foundation's focus on research, which is an important aspect of our mandate.

The research emphasis is also enhanced with the establishment of the Louis Schulman Epidemiology Unit within the Department of Community Health and Epidemiology of the College of Medicine, University of Saskatchewan. This jointly-funded undertaking by the College of Medicine and the Cancer Foundation has led to the recruitment of Dr. Carol Haines, who will commence employment in mid-1990. This is an extremely important addition to cancer control efforts within the province and is an example of what can be achieved through collaboration.

In January, 1990, the Cancer Foundation was asked by Saskatchewan Health to assume responsibility for the province's Screening Program for Breast Cancer. This was a unique opportunity for the Foundation to extend its focus on the portion of our mandate dealing with early detection of malignancy. Through the concentrated efforts of the Screening Program and Foundation staff, two pilot mammography projects will be undertaken. The first will be the opening of a stationary breast screening unit in Regina at the end of April. The second part of the pilot will focus on a mobile unit to be located in northern Saskatchewan. The operation of these two projects over a period of a year would assist in defining how breast screening can best be provided in the province.

Part of the Foundation's planning has focused on the crowded conditions of the Allan Blair Memorial Clinic in Regina. One of the major shortcomings is in the treatment capability of radiotherapy. A study of this area led to the preparation of a "Radiotherapy Needs" document which recommended the acquisition of a third linear accelerator. This recommendation was approved by both the Board of the Cancer Foundation and the Board of the South Saskatchewan Hospital Centre. In addition, a more encompassing "Statement of Need" for the Allan Blair Memorial Clinic was developed and approved by the Board. Contained in this statement was a recommendation that the Foundation retain a consultant planner to do an in-depth study of the Clinic's long range facility requirements and make recommendations on how those needs could best be met.

Report *continued*

Both of these recommendations have been submitted to Saskatchewan Health for consideration. The Foundation is eagerly awaiting approval to proceed with these projects so we can provide patients with treatment on a timely basis.

Recruitment of oncologists, physicists and radiotherapy technologists has traditionally been an ongoing process, in part complicated by a national shortage of these specialists. We are pleased to report that for the first time in over a decade, a full complement of oncologists and physicists has been achieved. The shortage of radiotherapy technologists across Canada remains a concern and requires continuing emphasis. Employment of graduates from the Foundation's Technologist Training Program will become a major focus in eliminating this historical shortfall.

The Foundation's most powerful resource is its staff and volunteers. A compilation of their individual contributions has made this a good year, and their individual and collective efforts are acknowledged with gratitude.

E. I. Schwartz

P. H. Peters

Report of the Medical Director

Dr. D. F. White
Medical Director

Change in the provision of care for cancer patients is characteristic of the maintenance of state-of-the-art therapy.

Change has occurred in many areas, including:

- The technology underlying the diagnosis of cancer; e.g., MRI.
- The technology of radiation therapy.
- The indications for radiation treatment, both of a curative and palliative nature.
- The number of new chemotherapy drugs and new combinations of drugs.
- The indications for chemotherapy treatment with both curative and palliative intent.

Along with these changes, patients, physicians, and the health care system per se have come to expect changes of the Cancer Program. These expectations include:

- A greater emphasis on prevention, as prevention of cancer is more effective than treatment of disease. For example, smoking cessation would dramatically reduce the incidence of a large percentage of cancers. Similarly, attention to the diet holds the promise of altered prevalence of malignant disease.
- Increased focus on early detection programs, which increases the effectiveness of treatment. The Screening Program for Breast Cancer is such a program.
- Enhanced and readily accessible ancillary care services for cancer patients. This requires a co-ordination of social services, nutritional services, home care programs and palliative care programs as a part of an encompassing cancer care program.
- The ability for patients to receive more of their cancer treatment closer to their own communities, which is the basis for developing an outreach program.

To fulfill its mandate and remain focused on its Mission, the Saskatchewan Cancer Foundation must play a leadership role in dealing with these changes. This requires maintaining its integral strength, which consists of:

- A qualified medical staff involved in service, education and research, providing the basis of professional satisfaction with its concomitant stability of staff.
- Dedicated staff with a strong commitment to the provision of quality service for patients.
- A program committed to provision of state-of-the art therapy.
- A program committed to education, both at the undergraduate and postgraduate level, for all health care professionals involved in cancer care.
- A program recognizing that advances can occur only through research of both a basic and clinical nature.

The Cancer Program in Saskatchewan is a good one. Its strengths are its professional staff, its equipment and physical plant, but more importantly, it is the Foundation's commitment to excellence so that Saskatchewan patients will receive the very best of care.

D. F. White

Allan Blair Memorial Clinic Report

Dr. I. Aref

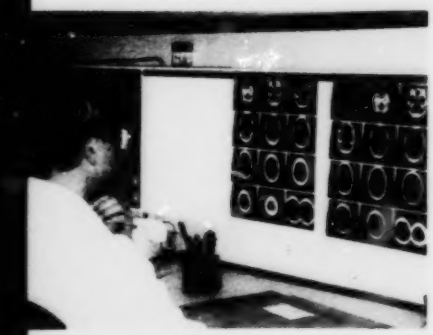
Medical Staff

The Clinic has been fortunate to have two physicians join its staff in the past year; Dr. I. M. Aref, Radiation Oncologist, who relocated from Toronto; and Dr. C. K. O. Williams, Medical Oncologist, from Qatar.

Dr. H. G. Whiston retired after eight years service, of which five years were spent as Director of the Clinic.

Dr. K. M. Soltys completed her one year term as Assistant Physician, and was replaced by Dr. S. Stoffel.

Dr. O. R. Rivera, a Regina Pediatritian, agreed to provide part-time coverage in the Pediatrics Department.



Dr. S. K. Liem
Reviewing CT scan

Research

An important aspect of the cancer program is involvement in research. Clinical trials through the North Central Cancer Treatment Group (NCCTG) and the National Cancer Institute of Canada (NCIC) play an active role in providing state-of-the-art treatment, and the number of patients volunteering to participate attests to their acceptance.

Reinstatement of membership in the Children's Cancer Study Group was pursued during the year and we are optimistic membership will be granted early in the new year. Dr. T. S. Goh, principal investigator for the Clinic, has maintained protocols to be entered upon membership being granted.

Involvement of Clinic staff in research projects is encouraged through grants provided by the Foundation. For further information, see the Research Projects section.

Radiation Therapy Technologists at Linear Accelerator Station.

Education and Training

As in past years, physicians have attended NCCTG and NCIC conferences focusing on new treatment modalities. Attendance at these and other international events helps to ensure that Clinic professional staff are aware of current practices in treating cancer patients, and they can implement those innovations which are practical for use in Saskatchewan's cancer program. Collaborating with professionals in other provinces and countries is essential if we want our residents to have access to current techniques in cancer care.

The conducting of in-house training programs is seen as a way to upgrade skills at minimal cost. One such course, developed by Dr. M. A. Poon, provided nurses with instruction in the administration of chemotherapy. Another in-house project, a ten week course on statistical methods developed by Physics and Computer Services staff and utilizing Foundation resource people, was provided to professional staff at the Clinic.

Allan Blair Memorial Clinic Report

Continuing Medical/Nursing Education programs of the College of Medicine, University of Saskatchewan, are recognized as opportunities for Clinic staff to contribute to the education of other professionals in the care of cancer patients.

The Radiation Therapy Technologist Training Program saw one student graduate and accept employment at the Clinic. At year end, two students were enroled in the second year and one student in the first year of this training. Clinical training is provided in-house, while the didactic training is provided in Winnipeg through the Manitoba Cancer Treatment and Research Foundation.

C. Newman
Physics Services

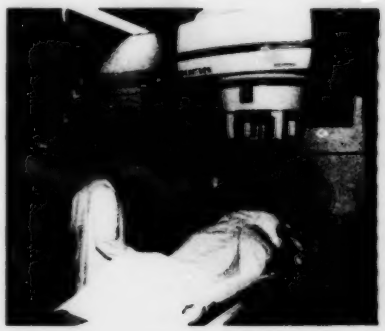
Technology

As radiation therapy treatment becomes more precise and complex, over the years there has been higher demand for custom accessories, the number of verify record fields has increased, as has the number of treatment contours. For example, since 1986, the number of patients entered into the verify record system has increased by 107%, and the number of fractions treated has seen a 102% increase.

The major equipment items being maintained in the Clinic by the Physics Department include the Picker C9 cobalt unit, 4MV linear accelerator, 20MV linear accelerator, deep therapy x-ray unit, and Siemens simulator. Maintenance costs have been kept significantly below the normal industry average.

Some of the nuclear medicine services provided to the three hospitals in Regina included testing of equipment, development of computer systems and product evaluation.

A computerized word processing system in the Health Records Department was implemented to increase efficiency. Patient records are updated immediately with this new system which has the capability of storing written notes.



B. Reichert at Linear Accelerator.

Support Services

Recognizing the importance of nutrition in the care of cancer patients, Dietary Services were added to the Clinic's program during the past year for the purpose of preventing or alleviating diet related problems.

The Medical Social Work Department assists patients and their families to cope with the effects of cancer. Financed by the Canadian Cancer Society, Saskatchewan Division, the Personal Services Workers offer emotional support as well as provide information with respect to services available to patients.

Patients who live outside Regina receive accommodation at the Patient Lodge while receiving treatment at the Clinic. Besides comfortable living quarters, patients are offered meals and recreational programs.

M. Maw
Volunteer Services

Allan Blair Memorial Clinic Report

Statistics

Patient Visits

	1985	1986	1987	1988	1989
New Cases	1228	1365	1281	1231	1341
Review Cases	13165	15194	15839	15250	14989
Radiotherapy*		12848	13126	14060	14583
Chemotherapy*			3088	2881	—

* A computer system was implemented in 1986 to collect basic information on radiotherapy treatments (cases, treatment visits and fields). A similar system for chemotherapy to collect information on the number of treatments and drugs administered was implemented in 1987.

Number of Patients Treated by Radiation

	1985	1986	1987	1988	1989
Linear Accelerator	431	672	871	879	860
Cobalt	503	157	14	42	13
X-ray	125	134	160	110	92
Interstitial/intracavitary	27	18	21	33	27
Gold Grains	3	1	1	0	0
Strontium	—	—	—	—	12
Other (P32, I131)	3	18	10	5	2
Total	1092	1000	1077	1069	1006

Patient Visits Outside the Clinic

	1985	1986	1987	1988	1989
New Cases	1757	1685	1753	1909	1941
Reviews Reported	17218	16498	15451	15150	15210

The above cases are registered and followed by the cancer clinic through community physicians and are not normally seen in the clinic.

Allan Blair Memorial Clinic Report

Administration Staff

G. H. Ewing	Director
J. A. Grill	Business Manager
A. M. Sweet	Assistant to Business Manager

Physicians

G. H. Ewing	M.B.,Ch.B.,M.R.C.P.(Ed.),F.R.C.P.(C)
T. S. Goh	M.B.,B.S.,F.R.C.P.,(C)
B. H. Jo	M.D.,A.I.M.,A.B.R.(T)
M. S. Khan	M.B.,B.S.,D.M.R.T.,F.F.R.
S. K. Liem	M.D.,D.A.B.R.,F.R.C.P.(C)
M. A. Poon	M.B.,F.R.C.P.(C)
S. Rayson	M.B.,B.S.,F.R.C.P.(C)
L. J. Rodrigue	M.D.,F.R.C.S.(C),D.A.B.S.
K. M. Soltys*	M.D.
S. S. Stoffel	M.D.
H. G. Whiston**	M.B.,Ch.B.,D.M.R.T.,F.R.C.P.(C)

Part-time:

O. R. Rivera	M.D.,D.A.B.P.,F.R.C.P.(C)

Consultants

Pathology

D. Dexter**	M.R.C.Path.,F.R.C.P.(C)
J. M. Vetters	M.D.,F.R.C.P.(C),F.R.C.Path.

Physicists

P. A. Dickof	M.Sc.,M.C.C.P.M.
H. W. Fielding	B.Sc.,M.Sc.,Ph.D.
G. M. Mawko	B.Sc.,M.Sc.(A),Ph.D.
M. G. Schmid	B.Sc.,M.Sc.,M.C.C.P.M.
W. A. Ziegler	B.Sc.,M.Sc.,Ph.D.

Department Heads

M. A. Poon	Head of Medical Oncology
M. S. Khan	Head of Radiation Oncology
P. A. Dickof	Chief Medical Physicist
A. V. Curtis	Head Nurse
E. A. Dietrich	Director of Health Records
B. J. Uncles	Medical Social Worker
J. Dufay	Chief Technologist
J. Okroj	Dietitian
S. L. Murray	Patient Lodge Manager

* Term expired
** Retired

Saskatoon Cancer Centre Report

B. Liebrecht
Reception

F. Lowe, R. Jackson
Clinical Trials Office

T. Dumonceaux
Research Unit

Soon after the Clinic moved to its new facilities, the Foundation considered a name change for the Saskatoon Cancer Clinic to more appropriately reflect its role which includes research and education. The name selected in early 1989 was the "Saskatoon Cancer Centre". This report reflects highlights of activities at the Centre over the past year.

Medical Staff

Dr. E. C. Kostashuk accepted the position of Head of Radiation Oncology, replacing Dr. D. McGowan, who relocated to Edmonton. In addition, the Centre was successful in recruiting Dr. N. L. Kobrinsky to the position of Head of Pediatric Oncology. The Centre has been fortunate to have attracted physicians of this calibre to its medical staff, and is pleased to have achieved a full complement of physicians.

Research

The recruitment of a Director of Research resulted in acceptance of the position by Dr. S. Carlsen, who will assume his responsibilities with the Centre early in the new fiscal year. It is expected Dr. Carlsen's leadership will attract other scientists to the Research Unit, resulting in increased utilization of these excellent facilities.

Clinical trials through the North Central Cancer Treatment Group (NCCTG) and the National Cancer Institute of Canada (NCIC) have become an important part of the Centre's activities, and an increasing number of patients are agreeing to participate in these innovative treatment programs. It is as a result of our participation in these clinical trials that a new treatment protocol has been developed which will benefit patients with cancer of the colon.

In 1989, the Pediatric Oncology Department joined the Children's Cancer Study Group (CCSG), and now enters most of its patients in therapeutic and epidemiologic trials. This involvement has resulted in substantial advancement in treatment of childhood cancers. Survival rates have increased, morbidity has been reduced, and quality of life for many patients has improved.

There is ongoing monitoring of new cancer drugs which enter the market in an effort to provide the best possible care to patients in the most cost effective manner. State-of-the-art chemotherapy and radiation therapy treatments are available in Saskatchewan because the professional staff are dedicated to finding improved treatment methods.

For reports on research projects funded by the Saskatchewan Cancer Foundation, see the Research Projects section.

Education and Training

Participation in NCCTG and NCIC clinical trials provides opportunities to participate in educational events involving world leaders in cancer care. Attendance at such conferences assists professional staff in keeping abreast of current treatment practices and initiating those which are practical for use in Saskatchewan.

Saskatoon Cancer Centre Report

Members of the Pediatric Oncology group attend meetings of the CCSG in order to enhance their knowledge of treating children's cancers and apply that knowledge to their treatment practices.

Nurses participate in conferences and meetings at the international, national and local level. A number of the staff are involved in planning for the Canadian Association of Nurses in Oncology Conference, which will be held in Saskatoon in September, 1990. Our nurses continue to play an active role in the delivery of the University of Saskatchewan's Continuing Nursing Education program, and participate in local oncology conferences.

Physicians participate in the programs sponsored by the University's Continuing Medical Education program.

A formal liaison exists with the Faculty of Medicine of the University of Saskatchewan, providing input into the medical school hematology and oncology curricula.

As the outreach program gains popularity in the province, cancer professionals are called upon to provide guidance to community physicians and nurses in the administration of chemotherapy and related activities.

One student graduated from the Radiation Therapy Technologist Training Program and was employed by the Centre. At the end of the year, there were two students enrolled in the second year and three students enrolled in the first year of the program. Students receive their clinical training at the Centre, while the didactic training is provided in Winnipeg through the Manitoba Cancer Treatment and Research Foundation

Technology

Following the Centre's move to new facilities, there was a period of start up time for some treatment equipment. Physics staff now maintain the Philips SL25 linear accelerator; Philips SL75/5 linear accelerator, Siemens M6700 6MV linear accelerator; AECL Betatron 80 cobalt unit; Philips AT250 Orthovoltage x-ray unit; AECL simulator; and Philips Medio-50 diagnostic x-ray unit.

The Radiation Oncology Department has participated with Physics staff in the assessment of new technology in particular areas such as brachytherapy. Streamlining methods of treating patients is seen as a way to accommodate the increasing number of patients.

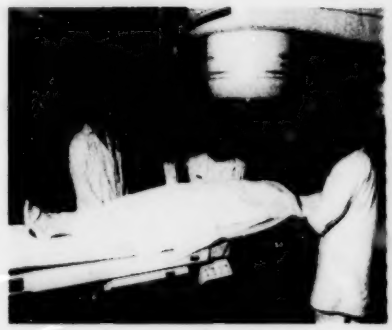
Support Services

Through the financial support of the Canadian Cancer Society, Saskatchewan Division, personal service workers are available at the Centre to provide counselling to patients and their families. A recent initiative was to introduce a program of education for patients and their relatives for the purpose of enhancing their knowledge of cancer and its treatment.

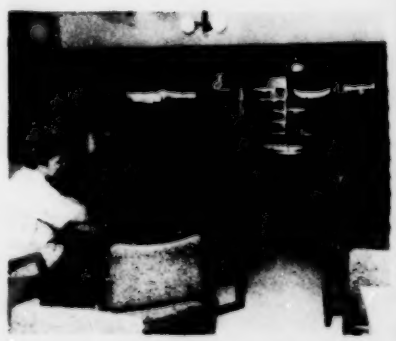
Dietary and Pharmacy services provided at the Centre are an integral part of a patient's treatment.

During treatment at the Centre, patients from out of the city are invited to stay at the Cancer Patient Lodge.

M. Greuel, R. Kubisch
at Radiation Therapy SL75 console.



B. Johansen, S. Coulter, C. Skelly
Radiation Therapy



Kitchen and dining area, Saskatoon Patient Lodge.

Saskatoon Cancer Centre Report

Statistics

Patient Visits

	1985	1986	1987	1988	1989
New Cases	1355	1519	1421	1325	1131
Review Cases	12160	13482	14351	13391	14524
Radiotherapy*		17106	15858	15360	16063
Chemotherapy*			2890	2964	2918

* A computer system was implemented in 1986 to collect basic information on radiotherapy treatments (cases, treatment visits and fields). A similar system for chemotherapy to collect information on the number of treatments and drugs administered was implemented in 1987.

Number of Patients Treated by Radiation

	1985	1986	1987	1988	1989
Betatron	136	140	138	87	0
Linear Accelerator	276	397	409	434	717
Cobalt	494	551	513	499	435
X-ray	59	27	42	58	81
Interstitial/intracavitary	25	19	8	55	—
Beta-ray		3		43	0
Gold Grains				9	0
Other (P32, I131)	28	22	16	39	4
Total	1018	1159	1126	1224	1237

Patient Visits Outside the Clinic

	1985	1986	1987	1988	1989
New Cases	1615	1583	1751	1964	2275
Reviews Reported	19210	20423	18757	17184	18098

The above cases are registered and followed by the cancer clinic through community physicians and are not normally seen in the clinic.

Saskatoon Cancer Centre Report

Administration Staff

D. F. White	Director
O. Belovanoff	Business Manager
M. M. Wood	Assistant to Business Manager

Physicians

A. L. Agranovich	M.D.,F.R.C.P.(C)
G. R. Armitage	M.C.,F.R.C.P.(C)
N. L. Kobrinsky	M.D.,F.R.C.P.(C),F.A.A.P.
E. C. Kostashuk	M.D.,F.R.C.P.(C)
I. M. MacLennan	M.B.,Ch.B.,D.A.B.R.(T)
D. G. McGowan*	M.B.,Ch.B.,D.M.R.T.,F.R.C.P.(C)
A. W. Maksymiuk	M.D.,F.R.C.P.(C)
M. F. Mohamed	M.B.B.S.,D.M.R.T.,F.R.C.R.
A. Naidoo	M.B.,Ch.B.
B. D. Norris	B.Sc.,M.D.,F.R.C.P.(C)
H. V. Vachhrajani	M.D.,M.B.B.S.,D.G.O.,F.R.C.R.
D. F. White	M.D.,F.R.C.P.(C)

(Part-time)

R. T. Card	M.D.,F.R.C.P.(C)
M. P. Chu	M.D.,C.C.F.P.
H. I. Krespin	M.D.,F.R.C.P.(C)
S. Padmanabh	M.B.B.S.,D.C.P.,F.R.C.P.(Ed.),F.R.C.P.(C)
D. R. Popkin	B.Sc.,M.D.,C.M.,F.R.C.S.(C),F.A.C.O.G.
D. P. Sheridan	M.D.,F.R.C.P.(C)
L. F. Skinnider	M.B.,F.R.C.P.(C)

Consultants

Pathology:

H. J. Block	F.R.C.P.(C)
H. E. Emson	F.R.C.P.(C)

Diagnostic Radiology:

T. A. Kudel	M.D.,F.R.C.P.(C)
D. K. Fraser	M.D.,F.R.C.P.(C)
P. S. Tchang	M.D.,F.R.C.P.(C)

Physicists

W. B. Reid**	B.A.,M.A.,Ph.D.,F.C.C.P.M.
A. D. Baillie	B.Sc.,Ph.D.,F.C.C.P.M.
R. H. Hummel	B.Sc.,(EE),M.Sc.,Ph.D.,M.C.C.P.M.
J. R. Lapointe	B.Sc.,M.Sc.,Ph.D.

Department Heads

A. W. Maksymiuk	Head of Medical Oncology
N. L. Kobrinsky	Head of Pediatric Oncology
D. G. McGowan*	Head of Radiation Oncology
E. C. Kostashuk	Head of Radiation Oncology
W. B. Reid**	Chief Medical Physicist
A. D. Baillie	Chief Medical Physicist
S. G. Cianflone	Head Nurse
V. W. Runquist	Director of Health Records
A. E. Kaytor*	Chief Technologist
A. L. Kind	Chief Technologist
E. A. Skinner	Medical Social Worker
J. R. Gravel*	Dietitian
J. L. Jobe	Dietitian
V. M. Klusa	Patient Lodge Manager

* Resigned ** Deceased

Statistical Tables

New Cancers by Site, Sex and Age Group — 1989

SITE	Sex	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total
Lip	M	0	0	0	0	0	0	1	1	0	1	10	2	3	7	18	6	3	9	61
	F	0	0	0	0	0	0	0	0	0	0	1	1	0	1	2	1	2	0	8
Oral Cavity	M	0	0	0	1	0	0	0	0	2	1	3	1	2	5	2	3	2	0	22
	F	0	0	0	0	0	0	1	1	1	0	2	1	1	0	3	1	2	1	14
Pharynx and	M	0	0	0	0	0	0	0	1	0	2	0	4	4	3	1	1	2	0	18
Nasopharynx	F	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	2
Oesophagus	M	0	0	0	0	0	0	0	0	0	0	0	7	4	0	6	8	2	2	29
	F	0	0	0	0	0	0	0	0	0	1	0	0	2	1	2	0	1	1	8
Stomach	M	0	0	0	0	0	0	0	1	0	2	1	5	6	11	12	15	10	12	75
	F	0	0	0	0	0	0	0	0	1	1	1	1	7	6	6	5	11	5	44
Small Intestine	M	0	0	0	0	0	0	0	1	0	0	1	1	0	1	1	0	0	0	5
	F	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	3
Colon	M	0	0	0	0	0	1	0	2	2	2	9	7	19	13	35	27	19	13	149
	F	0	0	0	0	0	0	0	1	5	8	5	8	20	35	24	35	19	21	181
Rectum	M	0	0	0	0	0	0	0	1	3	5	6	11	11	14	21	14	5	8	99
	F	0	0	0	0	0	1	0	0	0	0	5	5	11	10	5	8	9	9	63
Liver	M	0	0	0	0	0	0	0	0	0	1	2	3	1	4	4	3	3	2	23
	F	0	0	0	0	0	0	0	1	1	0	2	1	2	2	3	6	2	5	25
Pancreas	M	0	0	0	0	0	0	0	1	0	1	0	0	7	9	9	4	3	1	35
	F	0	0	0	0	0	0	0	1	0	0	2	4	3	5	4	9	6	5	39
Larnyx	M	0	0	0	0	0	0	0	0	0	0	3	6	9	3	7	1	1	0	30
	F	0	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0	4
Lung	M	0	0	0	0	0	0	0	1	3	5	12	36	72	71	69	52	33	17	371
	F	0	0	0	0	0	0	1	3	7	3	10	21	30	36	19	15	10	4	1.9
Breast	M	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1	1	1	0	5
	F	0	0	0	0	0	3	7	23	34	31	43	36	65	72	71	69	43	22	519
Prostate	M	0	0	0	0	0	0	0	0	0	3	5	16	35	104	102	116	73	47	501
Testis	M	0	0	0	2	1	6	2	2	4	3	0	1	0	0	1	0	0	0	22
Other Male Organs	M	0	0	0	0	1	0	0	0	0	0	2	1	2	1	1	2	2	2	14
Cervix (Invasive)	F	0	0	0	0	2	2	6	7	2	0	1	1	1	4	2	5	1	1	35
Uterus	F	0	0	0	0	0	0	1	2	3	5	9	12	18	11	19	10	10	4	104
Ovary	F	0	1	0	0	1	2	1	5	3	4	7	4	4	9	6	6	2	1	56
Other Female Organs	F	0	0	0	0	0	0	0	0	0	2	0	2	2	1	1	2	2	1	13
Other Urinary Organs	M	1	1	0	1	0	1	1	1	2	5	4	4	10	10	21	13	3	5	83
	F	1	0	0	0	0	0	0	3	0	3	0	6	3	6	8	6	2	5	43
Urinary Bladder	M	0	1	0	0	1	1	0	2	3	4	5	7	12	30	25	19	11	12	133
	F	0	0	0	0	0	0	1	0	0	2	0	1	4	6	9	4	7	1	35
Malignant Melanoma	M	0	0	0	0	3	2	5	3	0	5	4	10	7	7	3	9	5	0	63
(Skin)	F	0	0	0	0	0	3	6	11	5	3	2	2	2	3	1	2	1	2	43
Brain and	M	2	0	0	0	0	1	2	4	2	1	1	2	3	4	1	2	2	1	28
Nervous System	F	2	2	0	1	0	0	2	0	2	0	0	2	3	2	2	2	1	0	21
Thyroid	M	0	0	0	0	0	0	0	1	5	1	3	1	1	2	4	1	1	0	20
	F	0	0	0	0	1	1	1	0	2	1	1	2	3	1	0	0	0	0	13
Bone and	M	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	3
Cartilage	F	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
Soft Tissue	M	0	0	1	1	1	0	0	0	3	1	1	2	0	1	1	0	2	1	15
	F	0	1	0	1	0	1	0	0	0	2	0	1	1	0	0	0	1	1	9
Hodgkin's Disease	M	0	0	0	1	0	2	0	1	0	1	0	1	0	0	0	0	1	0	7
	F	0	0	1	2	3	1	2	0	0	1	0	0	1	2	0	0	1	0	14
Lymphoid Tissue	M	0	0	2	0	1	2	2	3	4	5	8	9	9	7	12	13	5	3	85
	F	0	0	0	0	0	0	4	1	2	1	4	12	4	12	9	12	10	2	73
Leukemia	M	6	0	2	0	1	0	0	2	3	5	9	1	11	21	10	13	6	2	92
	F	7	1	0	2	0	1	1	0	2	1	4	1	5	7	8	11	1	4	56
Multiple Myeloma	M	0	0	0	0	0	1	0	0	1	1	3	3	3	6	7	6	6	3	40
	F	0	0	0	0	0	0	0	0	0	0	2	4	1	3	7	3	2	0	22
Miscellaneous	M	0	0	0	0	1	0	2	1	2	0	2	3	1	4	4	2	3	2	27
	F	2	0	0	0	0	1	0	1	1	0	1	2	2	2	2	2	2	2	20
Primary Unknown	M	0	0	0	0	0	1	0	3	0	1	1	5	4	9	6	9	11	6	56
	F	0	0	0	0	0	0	1	0	0	0	2	6	2	7	6	10	8	7	49
Total — All Sites	M	9	2	5	7	10	18	15	33	39	56	97	150	236	348	384	340	215	148	2,112
	F	12	5	1	6	8	17	35	60	71	69	104	138	198	246	220	226	157	104	1,677
Total Cases		21	7	6	13	18	35	50	93	110	125	201	288	434	594	604	566	372	252	3,789

Statistical Tables

Non-Melanoma Skins, In-Situ and Death Certificate Only — 1989

SITE	Sex	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Total
Skin	M	0	0	0	1	0	6	8	16	34	28	38	79	118	159	208	169	151	126	1141
	F	0	0	0	1	1	4	7	13	28	28	38	51	85	85	109	131	86	124	791
Cervix (in-situ)	F	0	0	0	0	2	11	14	6	6	5	3	1	0	1	3	0	0	0	52
Other In-Situ	M	0	0	0	0	1	1	1	1	1	4	0	5	10	16	22	14	13	11	100
	F	0	0	0	0	0	1	1	1	4	5	8	9	15	13	19	17	13	7	113
Death Certificates	M	0	0	0	0	0	0	0	0	0	1	0	1	2	5	9	8	9	19	54
	F	0	0	0	0	0	0	0	0	0	0	0	1	2	4	2	4	9	11	33
Total — All Sites	M	0	0	0	1	1	7	9	17	35	33	38	85	130	180	239	191	173	156	1295
	F	0	0	0	1	3	16	22	20	38	38	49	62	102	103	133	152	108	142	989
		0	0	0	2	4	23	31	37	73	71	87	147	232	283	372	343	281	298	2284

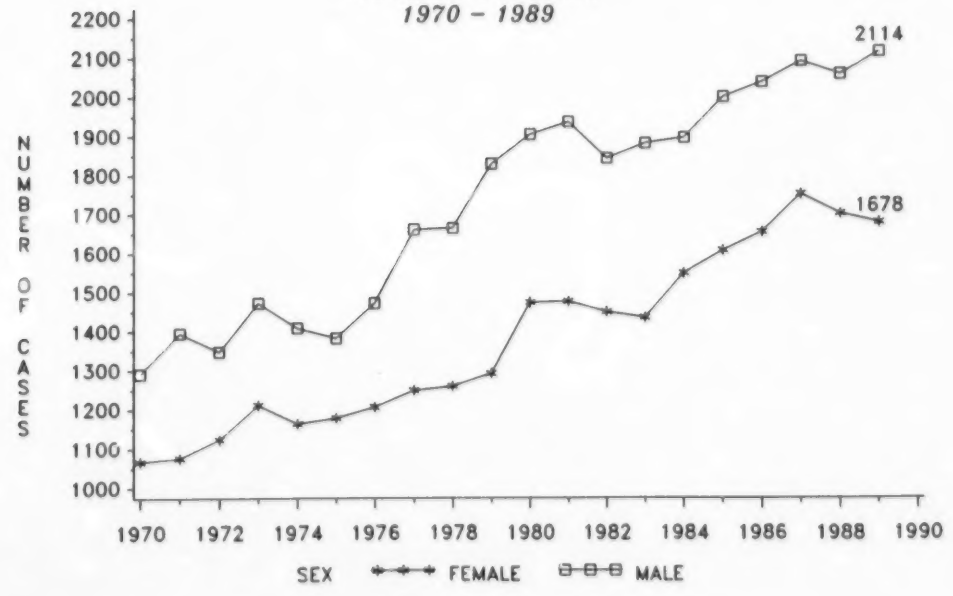
Incidence of Cancer Per 100,000 Population — 1989

Site	Total Population		Population at Risk	
	Male	Female	Male	Female
Lip	11.7	1.5	27.7	3.4
Oral Cavity	4.2	2.7	10.0	6.0
Pharynx and Nasopharynx	3.4	0.3	8.1	0.8
Oesophagus	5.5	1.5	13.2	3.4
Stomach	14.4	8.5	34.1	19.0
Small Intestine	0.9	0.5	2.2	1.2
Colon	28.6	34.9	67.8	78.3
Rectum	19.0	12.1	45.0	27.2
Liver	4.4	4.8	10.4	10.8
Pancreas	6.7	7.5	15.9	16.8
Larynx	5.7	0.7	13.6	1.7
Lung	71.4	30.7	168.9	68.8
Breast	1.1	100.3	2.7	224.7
Prostate	96.4	0.0	228.1	0.0
Testis	4.2	0.0	5.6	0.0
Other Male Organs	2.6	0.0	6.3	0.0
Cervix (Invasive)	0.0	6.7	0.0	9.7
Uterus	0.0	20.1	0.0	45.0
Ovary	0.0	10.8	0.0	24.2
Other Female Organs	0.0	2.5	0.0	5.6
Other Urinary Organs	15.9	8.3	37.8	18.6
Urinary Bladder	25.6	6.7	60.5	15.1
Malignant Melanoma (skin)	12.1	8.3	28.6	18.6
Brain and Nervous System	5.3	4.0	12.7	9.0
Thyroid	3.8	2.5	9.1	5.6
Bone & Cartilage	0.5	0.3	1.3	0.8
Soft Tissue	2.8	1.7	6.8	3.8
Hodgkin's Disease	1.3	2.7	1.7	3.5
Lymphoid Tissue	16.3	14.1	38.7	31.6
Leukemia	17.7	10.8	41.9	24.2
Multiple Myeloma	7.7	4.2	18.2	9.5
Miscellaneous	5.1	3.8	12.2	8.6
Primary Unknown	10.7	9.4	25.5	21.2
Total — All Sites	406.5	324.1	961.9	726.1
Total — All Sites — Both Sexes	365.4		841.0	

Statistical Tables

PROVINCIAL INCIDENCE
1970 - 1989

NUMBER OF CASES
1970 - 1989



NON-MELANOMA SKIN AND IN-SITU CASES EXCLUDED

Financial Statements

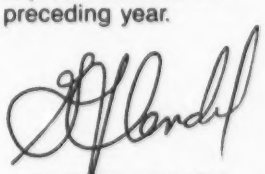
Year Ended March 31, 1990

AUDITOR'S REPORT

To the Members of the Legislative Assembly
of Saskatchewan

I have examined the balance sheet of the Saskatchewan Cancer Foundation as at March 31, 1990 and the statements of revenue and expenditure and fund balance for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

In my opinion, these financial statements present fairly the financial position of the Saskatchewan Cancer Foundation as at March 31, 1990 and the results of its operations and the changes in its financial position for the year then ended in accordance with the accounting principles disclosed in Note 2 to the financial statements applied on a basis consistent with that of the preceding year.



Regina, Saskatchewan
September 10, 1990

G. F. Wendel, C.A.,
A/Provincial Auditor

SASKATCHEWAN CANCER FOUNDATION
BALANCE SHEET
As At March 31

Statement 1

	1990							1989
	General Fund	Screening Program for Breast Cancer	Major Equipment Grant Fund	Saskatoon Clinic Construction Fund	Research Fund	Trust Fund	Total	Total
Assets								
Current:								
Cash and short-term investments	$ 1,400,767	$ 270,665	$ 446,536	$ —	$ 909,167	$ 1,297,005	$ 4,324,140	$ 3,570,735
Accounts receivable:								
— Department of Health	1,100,000	—	—	—	—	—	1,100,000	955,302
— Other and accrued interest	93,646	2,892	8,874	346,364	35,354	6,229	493,359	388,076
Prepaid Expenses	41,074	61,525	—	—	1,105	534	104,238	48,273
Due (to) from other funds	281,860	(1,157)	71,653	(323,695)	(28,661)	—	—	—
	2,917,347	333,925	527,063	22,669	916,965	1,303,768	6,021,737	4,962,386
Fixed Assets (Note 4)	21,125,024	68,221	—	—	103,601	—	21,296,846	22,760,951
	$ 24,042,371	$ 402,146	$ 527,063	$ 22,669	$ 1,020,566	$ 1,303,768	$ 27,318,583	$ 27,723,337
Liabilities and Equity								
Liabilities:								
Accounts Payable:								
— Trade	$ 1,526,759	$ 84,036	$ —	$ —	$ 10,716	$ 54,139	$ 1,675,650	$ 1,502,303
— Deferred Revenue	1,535	—	—	—	54,806	—	56,341	3,185
	1,528,294	84,036	—	—	65,522	54,139	1,731,991	1,505,488
Equity:								
Fund balance (Statement 3)	22,514,077	318,110	527,063	22,669	955,044	1,249,629	25,586,592	26,217,849
	$ 24,042,371	$ 402,146	$ 527,063	$ 22,669	$ 1,020,566	$ 1,303,768	$ 27,318,583	$ 27,723,337

(See accompanying notes to the financial statements)

SASKATCHEWAN CANCER FOUNDATION
STATEMENT OF REVENUE AND EXPENDITURE
Year Ended March 31

Statement 2

	1990							1989
	General Fund	Screening Program for Breast Cancer	Major Equipment Grant Fund	Saskatoon Clinic Construction Fund	Research Fund	Trust Fund	Total	Total
Revenue:								
Grants								
— Department of Health	$20,630,148	$ 368,000	$ —	$ —	$ 358,750	$ —	$21,356,898	$18,590,280
— Saskatoon Clinic Construction (Note 7)	—	—	—	—	—	—	—	635,309
— Other	68,954	—	—	—	110,819	—	179,773	203,408
Donations and bequests	—	—	—	—	—	169,939	169,939	209,808
Investment income	—	2,892	58,640	—	88,779	140,268	290,579	210,045
Other income	255,840	—	—	65,094	—	—	320,934	298,626
	20,954,942	370,892	58,640	65,094	558,348	310,207	22,318,123	20,147,476
Expenditures:								
Clinics and general administration								
Salaries and employee benefits	9,070,781	32,607	—	—	—	—	9,103,388	8,112,171
Medical services	4,835,729	—	—	—	—	—	4,835,729	4,629,119
Drugs and medical supplies	3,626,769	—	—	—	—	—	3,626,769	2,787,907
Purchased services								
— laboratory services	351,494	—	—	—	—	—	351,494	382,797
— diagnostic radiology	596,424	—	—	—	—	—	596,424	424,456
— isotope services	205,445	—	—	—	—	—	205,445	324,838
— operating room services	102,213	—	—	—	—	—	102,213	75,810
Computer services	176,877	—	—	—	—	—	176,877	150,861
Building, equipment and leasehold alterations	145,736	59,565	21,390	—	—	60,039	286,730	778,503
Postage, printing and stationery	165,900	—	—	—	—	1,426	167,326	128,662
Repairs and maintenance of equipment	260,157	757	—	—	—	—	260,914	192,806
Telephone	122,841	392	—	—	—	—	123,233	111,467
Travel and staff development	124,729	3,481	—	—	—	9,018	137,228	117,617
Utilities	160,596	—	—	—	—	—	160,596	118,472
Other expenditures	669,877	24,201	—	—	—	13,695	707,773	555,066
Patient lodges								
Salaries and employee benefits	331,418	—	—	—	—	—	331,418	328,736
Other lodge operating costs	184,288	—	—	—	—	—	184,288	174,974
Grants:								
Research grants (Schedule 1)	—	—	—	—	397,937	—	397,937	378,839
Trust Fund grants	—	—	—	—	—	42,060	42,060	37,934
	21,131,274	121,003	21,390	—	397,937	126,238	21,797,842	19,811,035
Excess of revenue over expenditure (expenditure over revenue) — to Statement 3	$ (176,332)	$ 249,889	$ 37,250	$ 65,094	$ 160,411	$ 183,969	$ 520,281	$ 336,441

(See accompanying notes to the financial statements)

SASKATCHEWAN CANCER FOUNDATION
STATEMENT OF FUND BALANCE
Year Ended March 31

Statement 3

	1990							1989
	General Fund	Screening Program for Breast Cancer	Major Equipment Grants Fund	Saskatoon Clinic Construction Fund	Research Fund	Trust Fund	Total	Total
Accumulated surplus:								
Balance, beginning of year	$ 1,252,818	$ —	$ 489,813	$ (42,425)	$ 691,032	$ 1,065,660	$ 3,456,898	$ 2,805,877
Add (deduct): Excess of revenue over expenditure (expenditure over revenue) (Statement 2)	(176,332)	249,889	37,250	65,094	160,411	183,969	520,281	336,441
Add: Investment income	312,567	—	—	—	—	—	312,567	314,580
Balance, end of year	1,389,053	249,889	527,063	22,669	851,443	1,249,629	4,289,746	3,456,898
Equity in fixed assets:								
Balance, beginning of year	22,639,136	—	—	—	121,815	—	22,760,951	23,919,451
Add: Fixed assets purchased by:								
— General Fund - net of disposal	147,116	—	—	—	—	—	147,116	154,750
— Major Equipment Grant Fund	21,390	—	—	—	—	—	21,390	306,104
— Saskatoon clinic construction fund	—	—	—	—	—	—	—	266,276
— Research fund (note 5)	—	—	—	—	14,325	—	14,325	10,528
— Trust fund	60,039	—	—	—	—	—	60,039	32,728
— Screening program for breast cancer	—	59,565	—	—	—	—	59,565	—
Add: Fixed assets donated	—	20,779	—	—	—	—	20,779	—
	22,867,681	80,344	—	—	136,140	—	23,084,165	24,689,837
Deduct: Provision for depreciation	(1,742,657)	(12,123)	—	—	(32,539)	—	(1,787,319)	(1,928,886)
Balance, end of year	21,125,024	68,221	—	—	103,601	—	21,296,846	22,760,951
Fund balance, end of year — to Statement 1	$ 22,514,077	$ 318,110	$ 527,063	$ 22,669	$ 955,044	$ 1,249,629	$ 25,586,592	$ 26,217,849

(See accompanying notes to financial statements)

SASKATCHEWAN CANCER FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS
March 31, 1990

1. **Legal Status of the Saskatchewan Cancer Foundation**

   The Foundation was created under provisions of The Saskatchewan Cancer Foundation Act, 1979 and commenced operations on August 1, 1979.

   Under Section 38 of the Act, the Foundation acquired ownership of the assets and rights and assumed responsibility for the debts, liabilities, and obligations of the Government of Saskatchewan and the Saskatchewan Cancer Commission relating to the operation of the clinics in Regina and Saskatoon under The Cancer Control Act.

2. **Significant Accounting Policies**

   These financial statements have been prepared on the accrual basis of accounting and include the following significant accounting policies:

   a) **Fixed Assets and Depreciation**

      The Saskatchewan Cancer Foundation utilizes fund accounting wherein all revenues and expenditures including those for fixed assets appear in the statement of revenue and expenditure. To maintain accountability for fixed assets, it is necessary to record them as assets with a corresponding entry to "equity in fixed assets". All fixed assets costing $100 or more are recorded in this manner.

      Fixed assets purchased through the Major Equipment Grant Fund, the Saskatoon Clinic Construction Fund and the Trust Fund are presented as assets of the General Fund. These acquisitions are not included in the fixed asset expenditures of the General Fund but are recorded as expenditures in the Fund to which they apply. Assets purchased by the Research Fund and the Screening Program for Breast Cancer are recorded as assets of those Funds. Donated assets are recorded at their estimated cost as a credit to "equity in fixed assets".

      Fixed assets of the Foundation are depreciated on a straight-line basis over their estimated useful lives at rates ranging from 5% to 20% per annum.

      As the acquisition of fixed assets is primarily financed by government grants, a provision for depreciation is not charged to operations but is charged to "equity in fixed assets" to reflect the decrease in the undepreciated cost of the fixed assets.

   b) **Grant Revenue and Final Settlement Adjustments — General Fund**

      Grant revenue from the Department of Health is recorded on the accrual basis in accordance with the funding policy determined by the Department. Adjustments to estimated surpluses or deficits, as determined in the annual settlement review by the Department, are accounted for in the year that they are determined as adjustments to accumulated surplus or deficit.

      In accordance with the funding policy of the Department, any operating surplus, exclusive of donations and investment income, is repayable to the Department after the final settlement review is complete. A deficit on operations is the responsibility of the Foundation unless a prior commitment for reimbursement has been recognized by the Department.

   c) **Investment Income — General Fund**

      Saskatchewan Hospital Services Branch permits the Saskatchewan Cancer Foundation to retain investment income earned during the year. Interest income is therefore shown in the Statement of Fund balance in order to reflect only the operating activities of the General Fund in the statement of Revenue and Expenditure.

d) **Research Grants**

Research grants awarded by the Foundation to aid in funding approved research projects, are charged to expenditure in the year in which costs are incurred on the projects (See Note 5).

e) **Donations**

All donations are treated as revenue of the Trust Fund, which has specifically been established to administer such revenue and related expenditures.

Certain contributions to the Trust Fund are designated by the contributors to be used for such purposes as cancer research, equipment and library books. The Foundation maintains a record of the funds contributed and spent for each of the designated purposes until such funds are fully utilized (See Note 3).

3. **Restricted Trust Funds**

At March 31, 1990, a balance of $170,360 ($165,865 at March 31, 1989) remained to be used for the purposes designated by the contributors.

4. **Fixed Assets**

	1990			1989
	Cost	Accumulated Depreciation	Net Book Value	Net Book Value
a) **General Fund**				
Land & improvements	$ 285,002	$ 2,981	$ 282,021	$ 282,460
Buildings	18,157,559	2,293,963	15,863,596	16,771,547
Leasehold alterations	468,824	150,916	317,908	340,596
Equipment & furniture	10,840,343	6,178,844	4,661,499	5,244,533
	$ 29,751,728	$ 8,626,704	$ 21,125,024	$ 22,639,136
b) **Breast Screening**				
Equipment and furniture	$ 80,344	$ 12,123	$ 68,221	$ —
c) **Research Fund**				
Equipment and furniture	$ 320,899	$ 217,298	$ 103,601	$ 121,815

5. **Research Fund**

The Department of Health has provided grants to enable the Foundation to support a number of research projects. The Department has attached the following guidelines to the grants:

a) expenditure of grant funds will be at the discretion of the Foundation. The Foundation will assume responsibility for research costs in excess of the amount granted;

b) research funds, including investment income on the funds, will be kept separate from other funds of the Foundation.

The Foundation has met these guidelines by establishing the Research Fund, separate from other funds of the Foundation, from which research grants are made.

Included in Research Grants are expenditures totalling $14,325 (1989 - $10,528) for fixed assets required for certain research projects. Ownership of these assets is retained by the Foundation.

At March 31, 1990, the Research Fund was committed to expenditures totalling $338,696 ($330,971 at March 31, 1989), being the unexpended portion of approved research project awards.

6. **Major Equipment Grant Fund**

The Department of Health provided grant funds totalling $5,000,000 for the acquisition of certain major equipment in the period 1983 to 1988. The funds are to be accounted for separately from other equipment grants made through the regular budgetary process thereby permitting any unexpended funds from a preceding year to be carried forward.

7. **Saskatoon Clinic Construction Fund and Saskatchewan Property Management Corporation**

Similar to the Major Equipment Fund, the funds for the Saskatoon Clinic Construction are to be accounted for separately from other funding made through the regular budgetary process.

Funding for capital projects is arranged through an agreement with the Saskatchewan Property Management Corporation (SPMC) and the Department of Health. Under the terms of the agreement, the repayment requirements of the obligation and the interest rate applicable to the funding received are determined from time to time by the Minister of Finance. The agreement states that the obligation of the Saskatchewan Cancer Foundation (SCF) is limited to an amount equal to the funds received from the Department for this repayment purpose and also provides for the repayment of these funds by the Department directly to SPMC on behalf of the SCF. Due to the nature of this agreement, no liability is recorded in the financial statements of the SCF. Loan proceeds from SPMC are recorded as capital grants in the year in which they are received.

The balance of loans outstanding including accrued interest with respect to this financing arrangement at March 31, 1990 was $17,980,231 (March 31, 1989 - $18,034,094).

8 **Screening Program for Breast Cancer**

The Department of Health has agreed to provide grant funds totalling $1,868,000 for the period 1990 and 1991, for the sole purpose of operating two Pilot Projects on Breast Screening. The funds are accounted for as a separate fund in order to recognize the restrictions imposed on the use of these Funds. Funds provided for the year ended March 31, 1990 amounted to $368,000.

9. **Cancer Patient Lodges**

The Canadian Cancer Society, Saskatchewan Division, has donated two cancer patient lodges in the province to the Foundation. Under the terms of the agreement with the Society, the Foundation has assumed responsibility for the operations of these lodges. Title to the properties will remain with the Foundation so long as they are operated as cancer patient lodges.

10. **Related Party Transactions**

Included in these financial statements are income and expense amounts resulting from routine operating transactions conducted at prevailing market prices with various Crown-controlled hospitals, departments, agencies and corporations with which the Foundation is related. Account balances resulting from these transactions are included in the balance sheet and are settled on normal trade terms.

In addition, in accordance with a signed agreement with the South Saskatchewan Hospital, the Foundation has not been charged with occupancy costs relating to a cancer clinic, but leases the clinic for $1 per year.

11. **Comparative Information**

Certain 1989 balances have been reclassified to conform with the current year's presentation. In particular, investment income in the General Fund has been reclassified from the Statement of Revenue and Expenditure to the Statement of Fund Balance.

SASKATCHEWAN CANCER FOUNDATION
RESEARCH FUND
SCHEDULE OF RESEARCH GRANTS

Schedule 1

Year Ended March 31

	1990	1989
Participation in North Central Cancer Treatment Group	$ 130,498	$ 77,380
Extension of Treatment Planning Function, Regina	12,866	26,462
Radiotherapy Automation Project, Regina	38,103	39,762
Participation in Children's Cancer Study Group	63,786	54,694
Leukemias and Non-Hodgkin's Lymphomas, Saskatoon	31,803	33,011
Review of Treatment Results, Regina	—	141
Dose Calculation, Regina	—	11,655
Flow Cytometer/Cell Sorter, Saskatoon	15,853	17,361
Evaluation of In Vitro Chemosensitivity, Regina	59,834	51,101
Dietitian Participation in North Central Cancer Treatment Group, Saskatoon	—	2,913
Cancer in Saskatchewan, A Statistical Evaluation, Regina	—	7,313
Philips SL25 - Related Software Development, Saskatoon	14,348	33,380
Development of Quantitative Radionuclide Cardiography, Regina	2,507	23,666
Trends in Survival: Saskatchewan 1967-86, Regina	5,562	—
Radiosensitizers — BUdR in Cerebal Gliomas, Saskatoon	14,126	—
Automatic TPR Phantom, Regina	8,651	—
	$ 397,937	$ 378,839

Donations

The Saskatchewan Cancer Foundation is grateful to those who have donated money or equipment to the cancer clinics and lodges. These donations include "in memoriam" contributions, private donations, estate bequests and charitable organization contributions.

Donations are used to assist in the funding of:

— Medical, research or patient lodge equipment.
— Grants for continuing professional education.
— The volunteer program within the clinics.
— Patient amenities.

The Allan Blair Memorial Clinic/Regina Patient Lodge wish to thank the following contributors of $100.00 or more:

Amaolo, Louise, New York, NY
Amoco Canada Petroleum Co. Ltd., Calgary, Alta.
Anderson, Alice, Govan, Sask.
Armbruster, John, Neudorf, Sask.
Bachelu, Emile, Montmartre, Sask.
Bearing & Transmission, Regina, Sask.
Canada Safeway Ltd., Winnipeg, Man.
Canadian Foresters Ponderosa Bingo, Estevan, Sask.
Canadian Society of Safety Engineers, Regina, Sask.
Carey, Father V., Moosomin, Sask.
Chase, Wilford, Moose Jaw, Sask.
Chinneck, Mr. & Mrs. C., Calgary, Alta.
CKRM Good Neighbour Fund, Regina, Sask.
Clarke, Ivor, Sunset House, Alta.
Colbeck, G., Regina, Sask.
Collier, S.W., Norval, Ont.
Conrad, Isabel, Estevan, Sask.
Cooper, Charles, Kamsack, Sask.
Cosgrove, Robert, Whitewood, Sask.
Courtice Steel Inc., Cambridge, Ont.
Creelman & District Donor's Choice, Creelman, Sask.
Cull, Norma, Estevan, Sask.
David, Mary, Southey, Sask.
Domes, Helen, Verwood, Sask.
Don's Tire Shop Ltd., Estevan, Sask.
Drozdowski, Stan, Swift Current, Sask.
Duchek, Henry & Helen, Esterhazy, Sask.
Eagles, Vi, Estevan, Sask.
Eecol Electic Mgmt & Staff, Regina, Sask.
Epp, John, Fillmore, Sask.
Evenson, Arthur, Estevan, Sask.
Eyebrow Donor's Choice, Eyebrow, Sask.
Faford, Mr. & Mrs. Denis, Assiniboia, Sask.
Ferguson, Stan, Melville, Sask.
Fillmore & District Donor's Choice, Fillmore, Sask.
Fort Qu'Appelle & District Donor's Choice, Fort Qu'Appelle, Sask.
Gibbons, Margaret, Toronto, Ont.
Gibson, T., Toronto, Ont.
Goodman, Doris, Rocanville, Sask.
Grand Chapter of Saskatchewan Order of the Eastern Star, Saskatoon, Sask.
Greening, Gustave, Lampman, Sask.
Grundson, L., Estevan, Sask.
Gummer, W.K., Ottawa, Ont.
Hahn, Christina, Melville, Sask.
Hamilton, Ken, Punnichy, Sask.
Haubrich, Edward, Lemberg, Sask.
Hawdon, Pat, Hamilton, Bermuda
Heisler, Sebastian, Weyburn, Sask.
Johnson, Charlie, Estevan, Sask.
Kennedy, Freda, McLean, Sask.
Keturakis, M., Swift Current, Sask.
Kimmell, Violet, Yorkton, Sask.
Klebec, John, Regina, Sask.
Knezacek, Laddie, Esterhazy, Sask.
Kouri, James, Swift Current, Sask.
Langlois, Mr. & Mrs. E., Montmartre, Sask.
Lassota, Dan, Melville, Sask.
Lee, Helen, Hendon, Sask.
Legion of Frontiersman Can. Div., Regina, Sask.
Leptich, Anton, Estevan, Sask.
Linka, W., Regina, Sask.
Louie's Lottery, Brooks, Alta.
MacGregor, Howard, Swift Current, Sask.
Maksymiak, Helena, Regina, Sask.
Marcoux, Gerald, Sherwood Park, Alta.
Martinook, William, Melville, Sask.
McCallum, Tom, Melville, Sask.
McKenzie, June, Vancouver, B.C.
McMillan, Ivan, Craik, Sask.
Medi Drugs, Regina, Sask.
Melby, Kenneth, Radville, Sask.
Mitchell, Hugh, Sturgis, Sask.
Moffatt, John, Moosomin, Sask.
Moore, Mr. & Mrs. M. H., Chaplin, Sask.
Moreside, R.L., Regina, Sask.
Munro, Dr. Neil, Regina, Sask.
Murray, Donald, Kennedy, Sask.
Nagy, Lloyd, Dubuc, Sask.
Naomi Rebekah Lodge #3, Regina, Sask.
Ness, C., Lake Alma, Sask.
New Hastings Community Club, Moosomin, Sask.
Nicholson, Madeline, Venice, Florida
Ohly, Anton, Neudorf, Sask.
Orthner, Ron & Lucille, Regina, Sask.
Palmer, Sam, Tantallon, Sask.
Parent, Romeo, Welland, Ont.
Paterson, Jean, Willowbunch, Sask.
Perry, Samuel (Estate), Regina, Sask.
Pohylka, David, Regina, Sask.
Qu'Appelle House, Regina, Sask.
Radu, Pauline (Estate), Regina, Sask.
Redmond, Paul, Swift Current, Sask.

Donations

Redvers & District Donor's Choice, Redvers, Sask.
Reed, Eva, Oxbow, Sask.
Regina Cosmopal Club, Regina, Sask.
Reid, Cecil, Glasnevin, Sask.
Reider, Olive, Lampman, Sask.
Riegert, P.W., Regina, Sask.
Road Builders & Heavy Construction Assoc., Regina, Sask.
Robb, William, Moose Jaw, Sask.
Rommel, Esther, Regina, Sask.
Royal Trust, Regina, Sask.
Sandbeck, Dolores (Estate), Mossbank, Sask.
Saskatchewan Roadbuilders Safety Association, Regina, Sask.
SaskTel, Regina, Sask.
Schindler, Joe, Kamsack, Sask.
Schmidt, Lydia, Whitewood, Sask.
Schwartz, Arnold, Regina, Sask.
Seaberly, Erma, Pense, Sask.
Segal, Harold, Regina, Sask.
Sinclair, Joe, Regina, Sask.
Sinclair, Mary, Regina, Sask.
Sinis, Domnicky, Regina, Sask.
Skrypnyk, Metro, Burnaby, B.C.
Steger, Margaret, Regina, Sask.
Stone, Richard, Manor, Sask.
Swanson, Evelyn, Regina, Sask.
Tait, Brad & Dorothy, Melville, Sask.
Tasker, Alec, Qu'Appelle, Sask.
TelCare Regina, Regina, Sask.
Topp, D., Manor, Sask.
Torrington Inc., Burnaby, B.C.
TransCanada Pipelines, Toronto, Ont.
United Church Women, Indian Head, Sask.
Ursan, Dave, Lethbridge, Alta.
VanCaeseele, Joseph, Langenburg, Sask.
Ward, Robert, Oxbow, Sask.
Water Quality Board
Inland Water Directorate, Ottawa, Ontario
Watt, Sherman, Esterhazy, Sask.
Wettstein, Martha, Regina, Sask.
Wiens, A., Vancouver, B.C.
Wiome, Joan, Regina, Sask.
Zotzman, Donald, Regina, Sask.
Zwarych, Elsie, Rose Valley, Sask.

In addition, there were 1,056 donations under $100.00.

The Saskatoon Cancer Centre/Saskatoon Patient Lodge wish to thank the following contributors of $100.00 or more:

Adams, Jack
Allan, Mrs. Alice, Neville, Sask.
Anderson, Robert N., Edam, Sask.
Beavis Brothers Foundation, Saskatoon, Sask.
Blatherwick, Frederick & James, Prince Albert, Sask.
Bobyn, Dr. & Mrs. P.A., Kelowna, B.C.
Brazier, Walter, G., Nipawin, Sask.
Brown, I.B., Saskatoon, Sask.
Budget Rent-a-Car, Saskatoon, Sask.
Burgess Farms Limited, Tisdale, Sask.
Burnett, Don, Prince Albert, Sask.
Busby, Raymond, Saskatoon, Sask.
CJWW Staff, Saskatoon, Sask.
Canadian Order of Foresters
Cont 15, Sonningdale, Sask.
Carrier, Edward, Meath Park, Sask.
Chappell, Earl, Langham, Sask.
Cooke, Lyle & Marj, Eatonia, Sask.
Crawford, Hannah, Saskatoon, Sask.
Credit Union Central of Sask., Regina, Sask.
Davidson, Mrs. Margaret, Tisdale, Sask.
Deaver, Nellie, Kenaston, Sask.
Deverou, Sister Marie - Trust Fund
Dmuchowski, Alex, Foam Lake, Sask.
Dmytruk, Dmytro, North Battleford, Sask.
Dodsland Donor's Choice, Dodsland, Sask.
Dolphin, E.C., Meacham, Sask.
Dosco, Mr. Jack, Ganges, B.C.
Duck Lake District Donors Choice, Duck Lake, Sask.
Edam & District Donor's Choice, Edam, Sask.
Edwards, Winnifred, Milden, Sask.
Ehrlich, Mr. J.C., Saskatoon, Sask.
Einarson, Pearl (Estate)
Entz, Reverend Joseph, Fox Valley, Sask.
Erickson, Mrs. Ruth, Quill Lake, Sask.
Glass, Mildred, Rosetown, Sask.
Gorniak, Michael, Tisdale, Sask.
Gosselin, Mr. Alfred, Henribourg, Sask.
Grand Chapter Order of Eastern Star
Graves, Gil, Yorkton, Sask.
Gulka, Mike M. & Stella, Preeceville, Sask.
Halldorson, Mrs. S., Foam Lake, Sask.
Harbus, Dick & Catherine, North Battleford, Sask.
Harley, Mr. & E. Yost, Swift Current, Sask.
Haryett, C.R., Saskatoon, Sask.
Herron, Liz, Saskatoon, Sask.
Hill, Diane and Glen, Saskatoon, Sask.
Hnenny, Paul & Vera, Saskatoon, Sask.
Hodgson, John H., Birch Hills, Sask.
Holmes, Miss Edith M., Saskatoon, Sask.
Holmes, Mr. Charles, Saskatoon, Sask.
Holmes, Mr. Russell, Saskatoon, Sask.
Howland, Frances, Prince Albert, Sask.
Hutchinson, Friends of, Canwood, Sask.
Janzen, Jake, Hague, Sask.
Janzen, Mary, Warman, Sask.
Kartes, Margaret C., Saskatoon, Sask.
Kent, Christopher/Arnett, Louise (Trust)
Key Lake Mining Employees, Saskatoon, Sask.
Knorr, Joe, Kerrobert, Sask.
Krochak, Nick A., Arran, Sask.
Kuntz, Johanna, Wilkie, Sask.
Kurpyta, Rose, Eston, Sask.
Larson, Patricia, Wadena, Sask.
Lawrence, C. Alvin, Unity, Sask.
Listwans Global Beverages, Saskatoon, Sask.
Lockhart, Helen, Carrot River, Sask.
Markewich, Mrs. Mary Ann, Prince Albert, Sask.

Donations

McConnell, Alfred, Tisdale, Sask.
McLean, Don, Choiceland, Sask.
Medvid, Mrs. Pearl, Sheho, Sask.
Mitchell, Mr. W.F., Saskatoon, Sask.
Nedjelski, Benjamin, Kelvington, Sask.
Ottoson, Janet C., Naicam, Sask.
Peerless Carpet Corporation, Bramalea, Ont.
Pelech, Steve, Wynyard, Sask.
Petryshyn, Fred, Wynyard, Sask.
Pfeifer, Irvin, Saskatoon, Sask.
Pinkerton, Mrs. Lil & Family, Canora, Sask.
Plamondon, Yvonne, Humboldt, Sask.
Popoff, Mr. John J. N., Canora, Sask.
Rainville, Mr. & Mrs. Joseph, Saskatoon, Sask.
Reinhold Reunion, Macklin, Sask.
Robinson, Mrs. Dorothy, Lloydminster, Sask.
Rosentreter, Mr. Brian, Saskatoon, Sask.
Roycroft, Mary E.J., Simpson, Sask.
Roycroft, Miss E.V., Simpson, Sask.
Saskatchewan Dietetic Association, Saskatoon, Sask.
Scarlett, William, Kindersley, Sask.
Schatz, Bruno (brothers and sisters of)

In addition, there were 659 donations under $100.00.

Shaver, Mrs. George, North Battleford, Sask.
Spence, Elaine, Rosetown, Sask.
Stoneman, Harold C., Arborfield, Sask.
Syrenne, Horace and Martha, Quill Lake, Sask.
Thompson, Penni (friends and relatives of), Evesham, Sask.
Tollefson, Grace, Saskatoon, Sask.
Trout, Hector, Saskatoon, Sask.
Ukrainian Women's Assoc. of Canada, Saskatoon, Sask.
Ulrich, Shirley, Saskatoon, Sask.
Vetter, Helen C., Macklin, Sask.
Vigoren, Mary, Clair, Sask.
Warner, Leonard, Prince Albert, Sask.
Watt, Adam, Pennant, Sask.
Wells, Holly N., Lloydminster, Sask.
Wells, Marshall and Hally, Lloydminster, Sask.
Wickenhauser, Kathleen, St. Gregor, Sask.
Women's Aux. West. Development Museum, Saskatoon, Sask.
Wood, Ina, Saskatoon, Sask.
Woroniuk, Ella & John, Saskatoon, Sask.
Zimmerman, Deana, Saskatoon, Sask.

Research Projects

Funded by the Saskatchewan Cancer Foundation Research Fund

Participation in North Central Cancer Treatment Group

Poon, M. A., and Maksymiuk, A. W., in collaboration with the medical staff of the Saskatoon Cancer Centre and the Allan Blair Memorial Clinic, Regina.

The project is meeting its objective of participating in cancer treatment and cancer control studies by entering 60 patients per year on NCCTG clinical trials. In addition, there are approximately 250 Saskatchewan residents per year involved in NCCTG cancer control studies. Saskatchewan participation is primarily with respect to colorectal cancer, small cell lung cancer and early detection of colon cancer.

Publications arising from the clinical trials activity are numerous, and they contain significant Saskatchewan research participation.

Extension of Treatment Planning Function, Regina

Dickof, P. A.

The final steps in this project included the production of code to calculate dosage at an arbitrary point in the patient. By combining existing models, calculations can be performed by table look-up, using an extensive library of computational geometry routines. Work is underway to gather the clinical data to use this code in the Clinic.

The problem of rendering CT data from the patient to provide a three dimensional display has been another focus of this project. An algorithm was devised to perform this function, proving to be a more accurate method than that commonly used.

Radiotherapy Automation Project

Schmid, M.

Emphasis has been on developing a distance measuring system to be used on radiotherapy treatment machines for the measurement of distance from the radiation source to the patient surface. A prototype being tested demonstrates that a clinically useful contouring device can be constructed which would acquire accurate patient surface information for the construction of missing tissue compensators. It is expected such a device will be developed in the near future.

Participation in Children's Cancer Study Group

Kobrinsky, N. and Goh, T. S.

In October, 1989, the Saskatoon Cancer Centre's pediatric oncology program, through affiliation with the Mayo Clinic, became a full member of the Children's Cancer Study Group (CCSG).

All patients with newly diagnosed or recurrent cancer have been registered with the CCSG, and the majority of children have been entered on CCSG therapeutic and epidemiologic trials. Since enrolment in the program, 16 patients have been registered with CCSG.

Membership of the Allan Blair Memorial Clinic in the CCSG is imminent. Protocols have been summarized for submission, and once membership receives final approval, patients will be registered.

Through membership in CCSG, patients have access to protocols that are designed to give the best available treatment.

Research Projects

Funded by the Saskatchewan Cancer Foundation Research Fund

Leukemias and Non-Hodgkin's Lymphomas

Skinnider, L. F. and Maksymiuk, A. W.

In addition to testing for Ig gene rearrangement, testing has begun on lymphomas for alterations in the bcl-2 gene fragment. A small (29 base) probe is being synthesized to determine if in situ hybridization on paraffin sections can detect increased bcl-2 messenger RNA in follicular lymphomas.

Investigations have concluded that human serum contains a factor(s) that inhibits the genotoxic effect of dothistromin and aflatoxin. A manuscript in this regard is in preparation.

Flow Cytometer/Cell Sorter Facility

Warrington, R. C.

The facility is used for a wide variety of analysis and investigations applicable to numerous aspects of the human cancer problem. Support of the project plays a crucial role in the continued functioning of and expanded access to the facility and its role in research at the University of Saskatchewan.

The flow cytometer provides monitoring in ongoing studies such as cell surface antigen analysis, L-histidinol drug combination with chemotherapy drugs, and effects of cyclosporin A on EBV-specific T cell clones.

Evaluation of In Vitro Chemosensitivity

Goh, T. A. and Kirkpatrick, D. L.

Leukemia samples are being tested for chemosensitivity using both the DEA and MTT assays, and correlations made between the in vitro results and the patient responses. DEA lends itself well to the evaluation of bioreductive drugs.

Investigations into the use of monoclonal antibodies to enhance the DEA or MTT assay are continuing. Studies with the breast biopsies have included evaluation of various disaggregation methods along with viability studies and monoclonal tagging of the disaggregated samples. There is heterogenicity between samples, and results are being compared with pathology reports.

Philips SL25-Related Software Development

Baillie, A. D.

Modifications to the verify/record system were carried out, and a software module developed to integrate the treatment planning and verify/record programs. Programs were developed to handle, display and analyze data accumulated from the water-tank dosimetry system, and to calculate dose-rates for simple treatment setups. Programs to manage quality control data and to present the data for review were developed.

Due to time constraints, the project has been abandoned.

Research Projects

Funded by the Saskatchewan Cancer Foundation Research Fund

Development of Quantitative Radionuclide Cardiography

Mawko, G.

The project aims to elucidate the physical details relevant to quantitative radionuclide blood pool imaging, and to use this information to identify and develop accurate, reliable methods for non-invasive left ventricular volume measurements.

These objectives have been met in part through the construction of a three-dimensional dynamic cardiac phantom. As per the original engineering design, the phantom consists of three major components: a fluid driver, heart phantom, and computer sub-systems. The heart phantom consists of a single chamber and is capable of gated motion. The software sub-system includes simple arrhythmias simulation.

Current work consists of system calibration and actual data collection.

Trends in Survival: Saskatchewan 1967-86

Tan, L. and Robson, D. L.

The objective of this project is to produce survival trends for the period 1967 - 1986 for Saskatchewan residents, taking into account site, sex and age. A second objective is to assess the hardware and software requirements of such an analysis. The production of the crude survival rates by site and sex has been initiated.

Radiosensitizers - BUdR in Cerebral Gliomas

Griebel, R. W. and Agranovich, A. L.

The investigators propose the intratumoral injection of BUdR as an alternative delivery system to maximize the radiosensitizer effect of the compound in intracranially grown malignant gliomas in a rat tumour model.

Both conventional and intracranial delivery systems for BUdR administration have been devised and proven functional. An initial control group (no drug) and a group of conventionally treated animals are being followed post radiation. An immunoassay for quantifying the amount of drug taken up by neoplastic tissues has been mastered.

Automatic TPR Phantom

Schmid, M.

The objective of this project is to produce a device that can be added to the present water phantom dosimetry system for the purpose of automatically measuring tissue-phantom ratio.

A full-scale mock-up of the required water tank and reservoir was assembled and tested. It was determined that the scatter from the reservoir would be minimal, and this favourable result allowed the design of the reservoir system to be finalized.

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SKINNIDER, L., Stoessl, A., Wang, J. Increased Frequency of Sister-Chromatid Exchange Induced by Dothistromin in CHO Cells and Human Lymphocytes. **Mutation Research,** 222:167-170.

Sylvia Fedoruk Prize in Medical Physics

Dr. Sylvia O. Fedoruk, a Medical Physicist who gave 35 years of dedicated and distinguished service to the Saskatchewan Cancer Program, retired in December, 1986. On the occasion of Dr. Fedoruk's retirement, the Board of the Cancer Foundation announced the establishment of the Sylvia Fedoruk Prize in Medical Physics in her honour and in recognition of her contribution. Dr. Fedoruk's quality leadership was not restricted to the cancer program but extended to have a positive influence in the medical physics community, her city, province and country. These leadership qualities were epitomized in 1988 when she became Saskatchewan's 17th Lieutenant Governor.

This annual award is presented to the author selected as having published the best paper in Medical Physics in the preceding year, and must relate to work carried out within a Canadian institution. An anonymous selection committee, appointed jointly by the Canadian College of Physicists in Medicine and the Division of Medical and Biological Physics of the Canadian Association of Physicists, reviews the entries and recommends the successful candidates.

The award has been presented to:

1988 ROBERT NISHIKAWA, GORDON MAWDSLEY, AARON FENSTER, MARTIN YAFFE, co-authors of the paper "Scanned- Projection Digital Mammography", published in **Medical Physics.**

1989 T. R. MACKIE, A. F. BIELAJEW, D.W.O ROGERS, J. J. BATTISTA, co-authors of the paper "Generation of Photon Energy Deposition Kernels Using the EGS Monte Carlo Code", published in **Physics in Medicine and Biology.**

Historical Background

1929 The Saskatchewan Medical Association appointed a committee to study facilities available in the Province for treatment of cancer and recommended to the Minister of Health that a cancer program be established.

1930 The Saskatchewan Cancer Commission Act was passed which authorized a Commission to establish a cancer control program in Saskatchewan.

1931 Consultative diagnostic treatment clinics were opened at the Regina General Hospital and the Saskatoon City Hospital.

1939 The Regina Cancer Clinic was relocated to the Regina Grey Nuns' Hospital.

1944 The Cancer Control Act replaced the Saskatchewan Cancer Commission Act, and provided treatment at provincial expense for persons who had been resident in the province for more than six months.

1945 Radioactive isotopes were introduced to a limited extent at the clinics.

1947 The Canadian Cancer Society provided a personal service worker at each clinic to help in the personal needs of the patient.

1948 The Regina clinic moved to a newly constructed wing of the Regina Grey Nuns' Hospital and was named the Allan Blair Memorial Clinic in recognition of the contribution of the late Dr. Allan W. Blair to the program.

1949 A 25 million electron volt betatron was installed at the University of Saskatchewan and became available for treatment of patients with advanced cancer.

1951 The first cobalt unit in the world was designed and installed at the Saskatoon Cancer Clinic.

1954 The cancer clinic in Saskatoon was moved to the newly constructed University Hospital.

1958 Treatment was extended as an insured benefit to persons who had been resident in the province for more than three months.

1962 Insured benefits for cancer treatment were extended to Saskatchewan residents who received treatment outside the province.

1963 Renovation and expansion of radiotherapy facilities at the Allan Blair Memorial Clinic were completed.

1966 Insured benefits were extended to landed immigrants from the day of arrival.

1970 The Minister of Public Health established a study team to review and examine all aspects of cancer care in Saskatchewan and the report was made available in 1972.

1972 A new radiotherapy facility was opened at the Saskatoon Cancer Clinic which included a new 42 million electron volt betatron.

1973 The Cancer Control Act was amended to provide for the establishment of trust funds which could receive gifts, donations, bequests or grants.

1975 Nuclear medicine services were transferred from the cancer program to the Boards of the University Hospital and the South Saskatchewan Hospital Centre as hospital-based services.

Historical Background

1978 Dr. T. A. Watson completed a study titled "A Report on Some Aspects of the Saskatchewan Cancer Program". Several recommendations were made in the report including the establishment of the Saskatchewan Cancer Foundation to replace the Cancer Commission and the purchase of a linear accelerator for the Allan Blair Memorial Clinic.

Construction was completed on the expanded and renovated radiotherapy facilities at the Allan Blair Memorial Clinic.

1979 The Saskatchewan Cancer Foundation Act was passed establishing a Foundation to replace the Cancer Commission. Under this Act, the Foundation conducts a program for the diagnosis, prevention and treatment of cancer.

1980 Renovations to the Allan Blair Memorial Clinic were started beginning with the chemotherapy treatment area.

1981 A Siemens 20 MeV Linear Accelerator was installed at the Allan Blair Memorial Clinic.

Construction of a 28 bed patient lodge in Saskatoon was begun.

1982 The newly renovated Allan Blair Memorial Clinic was officially opened on June 22, 1982.

1983 On April 8, 1983, the first Saskatchewan patient lodge was officially opened in Saskatoon.

1985 On July 12, 1985 the second Saskatchewan patient lodge was officially opened in Regina.

A Siemens 4 MeV Linear Accelerator was installed at the Allan Blair Memorial Clinic.

1986 Construction commenced on the new clinic in Saskatoon.

The Foundation established the "Sylvia Fedoruk Prize in Medical Physics" to honour Sylvia O. Fedoruk on the occasion of her retirement.

The National Cancer Institute (Canada) presented the Terry Fox Regional Development Award jointly to the University of Saskatchewan's College of Medicine and the Saskatchewan Cancer Foundation.

1988 The new Saskatoon Cancer Clinic opened, with official opening ceremonies held on September 19, 1988.

The Saskatchewan Cancer Foundation hosted the Provincial Cancer Agencies Annual Meeting in Saskatoon.

1990 The Screening Program for Breast Cancer became an early detection program of the Saskatchewan Cancer Foundation.